

**Title:** High strength impact resistant hand protector

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## **BACKGROUND**

The present invention relates to a high strength impact resistant hand protector. Hand protectors offered today offer only adequate protection due to their lack of impact absorbing material composition and design. When such hand protectors are utilized during sports that demonstrate the risk of high impact blows occurring, the protection provided by such devices do not allow the appropriate impact dissipation characteristics to the hand and fingers, due to the materials used which are fabric based, or interwoven metal mesh fabric, which are limited to their impact absorbing capabilities. Said hand protectors are utilized in situations where high impact dissipation is a concern such as in sports, i.e. baseball, more particularly when worn by a baseball player attempting to hit a baseball ( at bat ). Oftentimes when a baseball players hand is struck, the hand protectors presently offered do not appropriately or effectively dissipate the needed amount of impact energy, that would sufficiently reduce impact energy to the hand and fingers, consequently oftentimes causing painful and serious injuries. Said hand protectors differ only in design and style, and not in the area of optimal impact protection qualities, which in turn offers the wearer minimal and limited protection of an athletes hand and fingers due to the lack of impact absorbing characteristics offered by such hand protectors. Prior art devices do not provide for a maximum protection hand protector that permits above and adequate impact absorption dissipation to the hand and finger areas when struck by impact force.

## **BRIEF SUMMARY**

The present invention is directed to a hand protector for dissipating impact energy formed from incoming objects that may strike the hand of the wearer. The hand protector includes a high strength lightweight impact resistant material ( titanium, aluminum, steel, hard plastics, leather, nylon, padding ) or any other similar type materials thereof. The high strength lightweight impact resistant material is positioned to cover the area of the back of the hand and finger areas, and is designed to absorb incoming impact energy. The impact resistant material is retained to the hand protector by being pocketed and enclosed within the outer layers of leather / nylon, or similar type materials, and the inner layer of padding material, and then is machine stitched within the two layers, and in turn is completely and securely enclosed. The hand protector of the present invention permits free movement of the hand and fingers, without any mobility impaired. The high strength lightweight impact resistant material is fully pocketed and enclosed within a padded enclosure to ensure safety and comfort. These and other aspects of this invention are further illustrated in the accompanying drawings, and are described in full in the following specifications.

## **BRIEF DESCRIPTION OF THE DRAWING**

The invention may take form in certain parts and arrangements of parts, a preferred embodiment of which will be described in detail in this specification, and illustrated in accompanying drawings which form a part hereof.

FIG. 1, is a perspective view of the hand protector in accordance with the present invention.

FIG. 2, is a cross sectional view of the material composition of the individual pocket enclosures machine stitched onto the surface of the hand protector.

## DETAILED DESCRIPTION

Referring now to the drawings and more particularly to FIG. 1. There is shown an embodiment of a high strength impact resistant hand protector manufactured utilizing the method of the present invention. In the embodiment shown, the hand protector consists of a leather outer layer. FIG. 1, section 1 which is comprised of a leather, nylon or similar type materials thereof. The leather outer layer is stitched to form a pocket for receiving the material and padding of which will be described hereinafter.

FIG. 2 and its sections is a cross sectional view of the enclosed pocket enclosures stitched onto the hand protector comprised of multiple layers of materials which will be referred and referenced to in detail hereinafter. FIG. 2 allows the view of the materials utilized to form the hand protector. The outer cover layers FIG 2 sections 1,5 consist of a leather material or similar type materials thereof. The leather outer layers, FIG. 2 sections 1,5 are cut and stitched to form a pocket enclosure for receiving the high strength lightweight material and padding which will be described hereinafter. FIG. 2 sections 2,4 consist of padding or foam type material(s) thereof. The cover layer of foam type material(s) of FIG. 2 sections 2,4 is utilized to dissipate impact energy received from the outer cover layer of FIG. 2 section 1, before reaching the inner layer of high strength lightweight impact resistant material of FIG. 2 section 3 of the pocket enclosure. The foam type material of FIG. 2 sections 2,4 are stitched to the inner surface of the outer cover layers of FIG. 2 sections 1,5 to conform together cohesively, and then are stitched in a manner to form a pocket enclosure(s) for receiving the lightweight / high strength impact resistant material of FIG. 2 section 3, the material of FIG. 2 section 3 is then fully enclosed within the pocket(s) and is then stitched within for a permanent enclosure.

We will now specifically refer back to the FIG. 1 embodiment. FIG. 1 section 1 consists of a glove sufficient to fit any human hand. Said glove is made of any fabric, leather, nylon, or any other similar type material(s) thereof. FIG. 1 sections 2 – 12 consist of pocket type enclosures of which the materials layered inside of said pockets are further described in detail hereinafter. The above mentioned pocket enclosures are designed for the specific purpose of covering target areas of the hand and fingers, FIG. 1 sections 4,6,8,10,12 consist of individual pocket enclosures covering the areas of the fingers between the 5 knuckles located on the top portion of the palm of the hand, and the 5 knuckles located in the center of the fingers. Furthermore, FIG. 1 sections 3,5,7,9,11 consist of individual pocket enclosures covering the areas of the fingers between the 5 knuckles located in the center of the fingers and fingertips. FIG. 1 section 2 specifically consists of a pocket enclosure directly covering the back portion of the hand, between the five knuckles on the top portion of the back of the hand, and the wrist. The above mentioned pocket enclosure sections of FIG. 1 are formed specifically to receive the high strength lightweight impact resistant material. Foam or a foam type material of FIG. 2, sections 2,4 is directly layered onto the inner surface of the outer cover layers of FIG. 2 sections 1,5 to conform together, of which said layers are then formed and stitched into a pocket type enclosure with an opening sufficient to receive the high strength lightweight impact resistant material of FIG. 2 section 3. The material of FIG. 2 section 3 is then received into the individually formed pocket(s) and the opening is then stitched to enclose said material. The pocket enclosure(s), FIG. 1 sections 2 – 12 are then stitched onto the surface of specific areas of the glove FIG.1 section 1 , to uniformly conform the pocket enclosure(s) and the glove into said hand protector.